SEQUENCE LISTING

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<110>   BIONOSTRA, S.L.

<120>   CHIMERIC EMPTY CAPSIDS OF THE INFECTIOUS BURSAL DISEASE VIRUS
        (IBDV), OBTAINMENT PROCESS AND APPLICATIONS

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<150>   ES P200400120
<151>   2004-01-21 (January 21, 2004)

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<170>   PatentIn version 3.1

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            35                  40                  45

Val Gly Asp Thr Gly Ser Gly Leu Ile Val Phe Phe Pro Gly Phe Pro
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Gly Ser Ile Val Gly Ala His Tyr Thr Leu Gln Gly Asn Gly Asn Tyr
65                  70                  75                  80

Lys Phe Asp Gln Met Leu Leu Thr Ala Gln Asn Leu Pro Ala Ser Tyr
                85                  90                  95

Asn Tyr Cys Arg Leu Val Ser Arg Ser Leu Thr Val Arg Ser Ser Thr
                100                 105                 110

Leu Pro Gly Gly Val Tyr Ala Leu Asn Gly Thr Ile Asn Ala Val Thr
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Phe Gln Gly Ser Leu Ser Glu Leu Thr Asp Val Ser Tyr Asn Gly Leu
        130                 135                 140

Met Ser Ala Thr Ala Asn Ile Asn Asp Lys Ile Gly Asn Val Leu Val
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Ser Val Gly Gly Glu Leu Val Phe Arg Thr Ser Val His Gly Leu Val
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Leu Gly Ala Thr Ile Tyr Leu Ile Gly Phe Asp Gly Thr Thr Val Ile
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gag ttc aaa gag acc ccc gaa ctc gag agt gcc gtc aga gca atg gaa   8145
Glu Phe Lys Glu Thr Pro Glu Leu Glu Ser Ala Val Arg Ala Met Glu
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gca gca gcc aac gtg gac cca cta ttc caa tct gca ctc agt gtg ttc   8193
Ala Ala Ala Asn Val Asp Pro Leu Phe Gln Ser Ala Leu Ser Val Phe
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atg tgg ctg gaa gag aat ggg att gtg act gac atg gcc aac ttc gca   8241
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Met Trp Leu Glu Glu Asn Gly Ile Val Thr Asp Met Ala Asn Phe Ala
            40                  45              50

ctc agc gac ccg aac gcc cat cgg atg cga aat ttt ctt gca aac gca    8289
Leu Ser Asp Pro Asn Ala His Arg Met Arg Asn Phe Leu Ala Asn Ala
        55                  60                  65

cca caa gca ggc agc aag tcg caa agg gcc aag tac ggg aca gca ggc    8337
Pro Gln Ala Gly Ser Lys Ser Gln Arg Ala Lys Tyr Gly Thr Ala Gly
    70                  75                  80

tac gga gtg gag gct cgg ggc ccc aca cca gag gaa gca cag agg gaa    8385
Tyr Gly Val Glu Ala Arg Gly Pro Thr Pro Glu Glu Ala Gln Arg Glu
85              90                  95                  100

aaa gac aca cgg atc tca aag aag atg gag acc atg ggc atc tac ttt    8433
Lys Asp Thr Arg Ile Ser Lys Lys Met Glu Thr Met Gly Ile Tyr Phe
                105                 110                 115

gca aca cca gaa tgg gta gca ctc aat ggg cac cga ggg cca agc cca    8481
Ala Thr Pro Glu Trp Val Ala Leu Asn Gly His Arg Gly Pro Ser Pro
                120                 125                 130

ggc cag gta aag tac tgg cag aac aaa cga gaa ata ccg gac cca aac    8529
Gly Gln Val Lys Tyr Trp Gln Asn Lys Arg Glu Ile Pro Asp Pro Asn
            135                 140                 145

gag gac tat cta gac tac gtg cat gca gag aag agc cgg ttg gca tca    8577
Glu Asp Tyr Leu Asp Tyr Val His Ala Glu Lys Ser Arg Leu Ala Ser
        150                 155                 160

gaa gaa caa atc cta agg gca gct acg tcg atc tac ggg gct cca gga    8625
Glu Glu Gln Ile Leu Arg Ala Ala Thr Ser Ile Tyr Gly Ala Pro Gly
165                 170                 175                 180

cag gca gag cca ccc caa gct ttc ata gac gaa gtt gcc aaa gtc tat    8673
Gln Ala Glu Pro Pro Gln Ala Phe Ile Asp Glu Val Ala Lys Val Tyr
                185                 190                 195

gaa atc aac cat gga cgt ggc cca aac caa gaa cag atg aaa gat ctg    8721
Glu Ile Asn His Gly Arg Gly Pro Asn Gln Glu Gln Met Lys Asp Leu
                200                 205                 210

ctc ttg act gcg atg gag atg aag cat cgc aat ccc agg cgg gct cta    8769
Leu Leu Thr Ala Met Glu Met Lys His Arg Asn Pro Arg Arg Ala Leu
            215                 220                 225

cca aag ccc aag cca aaa ccc aat gct cca aca cag aga ccc cct ggt    8817
Pro Lys Pro Lys Pro Lys Pro Asn Ala Pro Thr Gln Arg Pro Pro Gly
        230                 235                 240

cgg ctg ggc cgc tgg atc agg acc gtc tct gat gag gac ctt gag gga    8865
Arg Leu Gly Arg Trp Ile Arg Thr Val Ser Asp Glu Asp Leu Glu Gly
245                 250                 255                 260

tcc atc gcc acc atg gtg agc aag ggc gag gag ctg ttc acc ggg gtg    8913
Ser Ile Ala Thr Met Val Ser Lys Gly Glu Glu Leu Phe Thr Gly Val
                265                 270                 275

gtg ccc atc ctg gtc gag ctg gac ggc gac gta aac ggc cac aag ttc    8961
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Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe
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agc gtg tcc ggc gag ggc gag ggc gat gcc acc tac ggc aag ctg acc    9009
Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr
            295             300                 305

ctg aag ttc atc tgc acc acc ggc aag ctg ccc gtg ccc tgg ccc acc    9057
Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr
        310             315             320

ctc gtg acc acc ctg acc tac ggc gtg cag tgc ttc agc cgc tac ccc    9105
Leu Val Thr Thr Leu Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro
325             330             335             340

gac cac atg aag cag cac gac ttc ttc aag tcc gcc atg ccc gaa ggc    9153
Asp His Met Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly
                345             350             355

tac gtc cag gag cgc acc atc ttc ttc aag gac gac ggc aac tac aag    9201
Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys
            360             365             370

acc cgc gcc gag gtg aag ttc gag ggc gac acc ctg gtg aac cgc atc    9249
Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile
        375             380             385

gag ctg aag ggc atc gac ttc aag gag gac ggc aac atc ctg ggg cac    9297
Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His
        390             395             400

aag ctg gag tac aac tac aac agc cac aac gtc tat atc atg gcc gac    9345
Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp
405             410             415             420

aag cag aag aac ggc atc aag gtg aac ttc aag atc cgc cac aac atc    9393
Lys Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile
                425             430             435

gag gac ggc agc gtg cag ctc gcc gac cac tac cag cag aac acc ccc    9441
Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro
            440             445             450

atc ggc gac ggc ccc gtg ctg ctg ccc gac aac cac tac ctg agc acc    9489
Ile Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr
            455             460             465

cag tcc gcc ctg agc aaa gac ccc aac gag aag cgc gat cac atg gtc    9537
Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val
        470             475             480

ctg ctg gag ttc gtg acc gcc gcc ggg atc act ctc ggc atg gac gag    9585
Leu Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu
485             490             495             500

ctg tac aag taa agc                                                9600
Leu Tyr Lys
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Leu Ser Val Phe Met Trp Leu Glu Glu Asn Gly Ile Val Thr Asp Met
        35                  40                  45

Ala Asn Phe Ala Leu Ser Asp Pro Asn Ala His Arg Met Arg Asn Phe
    50                  55                  60

Leu Ala Asn Ala Pro Gln Ala Gly Ser Lys Ser Gln Arg Ala Lys Tyr
65                  70                  75                  80

Gly Thr Ala Gly Tyr Gly Val Glu Ala Arg Gly Pro Thr Pro Glu Glu
                85                  90                  95

Ala Gln Arg Glu Lys Asp Thr Arg Ile Ser Lys Lys Met Glu Thr Met
            100                 105                 110

Gly Ile Tyr Phe Ala Thr Pro Glu Trp Val Ala Leu Asn Gly His Arg
        115                 120                 125

Gly Pro Ser Pro Gly Gln Val Lys Tyr Trp Gln Asn Lys Arg Glu Ile
    130                 135                 140

Pro Asp Pro Asn Glu Asp Tyr Leu Asp Tyr Val His Ala Glu Lys Ser
145                 150                 155                 160

Arg Leu Ala Ser Glu Glu Gln Ile Leu Arg Ala Ala Thr Ser Ile Tyr
                165                 170                 175

Gly Ala Pro Gly Gln Ala Glu Pro Pro Gln Ala Phe Ile Asp Glu Val
            180                 185                 190

Ala Lys Val Tyr Glu Ile Asn His Gly Arg Gly Pro Asn Gln Glu Gln
        195                 200                 205

Met Lys Asp Leu Leu Leu Thr Ala Met Glu Met Lys His Arg Asn Pro
    210                 215                 220

Arg Arg Ala Leu Pro Lys Pro Lys Pro Lys Pro Asn Ala Pro Thr Gln
225                 230                 235                 240

Arg Pro Pro Gly Arg Leu Gly Arg Trp Ile Arg Thr Val Ser Asp Glu
            245                 250                 255

Asp Leu Glu Gly Ser Ile Ala Thr Met Val Ser Lys Gly Glu Glu Leu
            260                 265                 270
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Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn
        275             280             285

Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr
    290             295             300

Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val
305             310             315             320

Pro Trp Pro Thr Leu Val Thr Thr Leu Thr Tyr Gly Val Gln Cys Phe
            325             330             335

Ser Arg Tyr Pro Asp His Met Lys Gln His Asp Phe Phe Lys Ser Ala
        340             345             350

Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp
    355             360             365

Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu
    370             375             380

Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn
385             390             395             400

Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr
            405             410             415

Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile
            420             425             430

Arg His Asn Ile Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln
        435             440             445

Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His
    450             455             460

Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg
465             470             475             480

Asp His Met Val Leu Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Leu
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Gly Met Asp Glu Leu Tyr Lys
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                              Met Ser Tyr Tyr His His His His His
                              1               5

cac gat tac gat atc cca acg acc gaa aac ctg tat ttt cag ggc gcg        221
His Asp Tyr Asp Ile Pro Thr Thr Glu Asn Leu Tyr Phe Gln Gly Ala
10              15              20              25              .

aac gag gac agt tat gtc cca agc gca gaa caa ata gcc gcc atg gct        269
Asn Glu Asp Ser Tyr Val Pro Ser Ala Glu Gln Ile Ala Ala Met Ala
            30              35              40          .

gca tca gag ttc aaa gag acc ccc gaa ctc gag agt gcc gtc aga gca        317
Ala Ser Glu Phe Lys Glu Thr Pro Glu Leu Glu Ser Ala Val Arg Ala
            45              50              55

atg gaa gca gca gcc aac gtg gac cca cta ttc caa tct gca ctc agt        365
Met Glu Ala Ala Ala Asn Val Asp Pro Leu Phe Gln Ser Ala Leu Ser
        60              65              70

gtg ttc atg tgg ctg gaa gag aat ggg att gtg act gac atg gcc aac        413
Val Phe Met Trp Leu Glu Glu Asn Gly Ile Val Thr Asp Met Ala Asn
    75              80              85                      .

ttc gca ctc agc gac ccg aac gcc cat cgg atg cga aat ttt ctt gca        461
Phe Ala Leu Ser Asp Pro Asn Ala His Arg Met Arg Asn Phe Leu Ala
90              95              100             105

aac gca cca caa gca ggc agc aag tcg caa agg gcc aag tac ggg aca        509
Asn Ala Pro Gln Ala Gly Ser Lys Ser Gln Arg Ala Lys Tyr Gly Thr
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Ala Gly Tyr Gly Val Glu Ala Arg Gly Pro Thr Pro Glu Glu Ala Gln
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agg gaa aaa gac aca cgg atc tca aag aag atg gag acc atg ggc atc        605
Arg Glu Lys Asp Thr Arg Ile Ser Lys Lys Met Glu Thr Met Gly Ile
        140             145             150

tac ttt gca aca cca gaa tgg gta gca ctc aat ggg cac cga ggg cca        653
Tyr Phe Ala Thr Pro Glu Trp Val Ala Leu Asn Gly His Arg Gly Pro
        155             160             165

agc cca ggc cag gta aag tac tgg cag aac aaa cga gaa ata ccg gac        701
Ser Pro Gly Gln Val Lys Tyr Trp Gln Asn Lys Arg Glu Ile Pro Asp
170             175             180             185

cca aac gag gac tat cta gac tac gtg cat gca gag aag agc cgg ttg        749
Pro Asn Glu Asp Tyr Leu Asp Tyr Val His Ala Glu Lys Ser Arg Leu
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gca tca gaa gaa caa atc cta agg gca gct acg tcg atc tac ggg gct        797
Ala Ser Glu Glu Gln Ile Leu Arg Ala Ala Thr Ser Ile Tyr Gly Ala
        205             210             215
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cca gga cag gca gag cca ccc caa gct ttc ata gac gaa gtt gcc aaa      845
Pro Gly Gln Ala Glu Pro Pro Gln Ala Phe Ile Asp Glu Val Ala Lys
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gtc tat gaa atc aac cat gga cgt ggc cca aac caa gaa cag atg aaa      893
Val Tyr Glu Ile Asn His Gly Arg Gly Pro Asn Gln Glu Gln Met Lys
        235             240             245

gat ctg ctc ttg act gcg atg gag atg aag cat cgc aat ccc agg cgg      941
Asp Leu Leu Leu Thr Ala Met Glu Met Lys His Arg Asn Pro Arg Arg
250             255             260             265

gct cta cca aag ccc aag cca aaa ccc aat gct cca aca cag aga ccc      989
Ala Leu Pro Lys Pro Lys Pro Lys Pro Asn Ala Pro Thr Gln Arg Pro
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cct ggt cgg ctg ggc cgc tgg atc agg acc gtc tct gat gag gac ctt     1037
Pro Gly Arg Leu Gly Arg Trp Ile Arg Thr Val Ser Asp Glu Asp Leu
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Ser Ala Glu Gln Ile Ala Ala Met Ala Ala Ser Glu Phe Lys Glu Thr
        35                  40                  45

Pro Glu Leu Glu Ser Ala Val Arg Ala Met Glu Ala Ala Ala Asn Val
    50                  55                  60

Asp Pro Leu Phe Gln Ser Ala Leu Ser Val Phe Met Trp Leu Glu Glu
65                  70                  75                  80

Asn Gly Ile Val Thr Asp Met Ala Asn Phe Ala Leu Ser Asp Pro Asn
                85                  90                  95

Ala His Arg Met Arg Asn Phe Leu Ala Asn Ala Pro Gln Ala Gly Ser
            100                 105                 110

Lys Ser Gln Arg Ala Lys Tyr Gly Thr Ala Gly Tyr Gly Val Glu Ala
        115                 120                 125

Arg Gly Pro Thr Pro Glu Glu Ala Gln Arg Glu Lys Asp Thr Arg Ile
    130                 135                 140

Ser Lys Lys Met Glu Thr Met Gly Ile Tyr Phe Ala Thr Pro Glu Trp
145                 150                 155                 160

Val Ala Leu Asn Gly His Arg Gly Pro Ser Pro Gly Gln Val Lys Tyr
                165                 170                 175

Trp Gln Asn Lys Arg Glu Ile Pro Asp Pro Asn Glu Asp Tyr Leu Asp
            180                 185                 190

Tyr Val His Ala Glu Lys Ser Arg Leu Ala Ser Glu Glu Gln Ile Leu
        195                 200                 205

Arg Ala Ala Thr Ser Ile Tyr Gly Ala Pro Gly Gln Ala Glu Pro Pro
    210                 215                 220

Gln Ala Phe Ile Asp Glu Val Ala Lys Val Tyr Glu Ile Asn His Gly
225                 230                 235                 240

Arg Gly Pro Asn Gln Glu Gln Met Lys Asp Leu Leu Leu Thr Ala Met
                245                 250                 255
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Glu Met Lys His Arg Asn Pro Arg Arg Ala Leu Pro Lys Pro Lys Pro
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Lys Pro Asn Ala Pro Thr Gln Arg Pro Pro Gly Arg Leu Gly Arg Trp
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Ile Arg Thr Val Ser Asp Glu Asp Leu Glu
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